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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/602,143

06/24/2003

Ronald S. Cok

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9896

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06/08/2004

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EXAMINER

LANDAU, MATTHEW C

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,143

Applicant(s)

COK ET AL.

Examiner

Matthew Landau

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-9,11 and 18-38 is/are rejected.
- 7) ☒ Claim(s) 2,4 and 12-17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 10 and 18-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 10, it is unclear what Applicant intends to claim. It appears applicant is merely stating a relationship between certain parameters. It cannot be determined how this further structurally defines the claimed laser apparatus. The limitations "increasing the cross-sectional area" and "a reduction in the threshold power density" further render the claim indefinite. Does Applicant intend to claim a device wherein the cross-section area can be adjusted during operation? Increasing compared to what? A reduction compared to what?

In regards to claims 18, 19, 20, and 30, there is insufficient antecedent basis for "the organic light-emitting device".

Double Patenting

Claims 1, 3, 5-9, and 11 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 2 and 3 of U.S. Patent No. 6,658,037 in view of Berggren (US Pat. 5,881,089) and Kozlov (US Pat. 6,160,828). Claim 2 of the '037 patent has all the limitations of claim 1 of the instant application except for an optically transparent layer and a substrate located adjacent the second means. Figure 4 of Berggren discloses an incoherent light-emitting device (41-46) attached to a laser cavity (21-32) with an

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organic active layer 31. Berggren further discloses a dielectric layer (col. 4, lines 55 and 56) is placed between the first electrode 41 of the light emitting device and the laser cavity structure. Since light is passed from the light-emitting device to the laser cavity, it is inherent that the dielectric layer is transparent. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of the '037 patent to include a transparent layer between the first electrode and the laser cavity for the purpose of electrically isolating the light emitting device from the laser cavity. Figure 2 of Kozlov discloses an optically pumped vertical cavity laser with a substrate 113 attached to a mirror 113 on the laser output side of the device. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of the '037 patent by including a transparent substrate on the second mirror for the purpose providing a base support on which to grow layers of the device, while allowing light to be transmitted from the second mirror.

Allowable Subject Matter

Claims 2, 4, and 12-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 18-38 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record, either singularly or in combination, does not disclose or suggest the combination of claim limitations including an incoherent light emitting device and a vertical

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laser cavity structure located on the other side of the optically transparent layer and disposed to receive the pump beam light transmitted from the organic light emitting device through the optically transparent layer, such structure including: a first DBR mirror; an organic active layer; and a second DBR mirror.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kopp et al. discloses optically pumping an organic active layer with an LED.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (571) 272-1731.

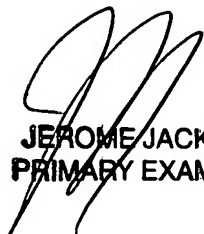
The examiner can normally be reached from 8:30 AM - 5:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Matthew C. Landau

Examiner

June 1, 2004


JEROME JACKSON
PRIMARY EXAMINER